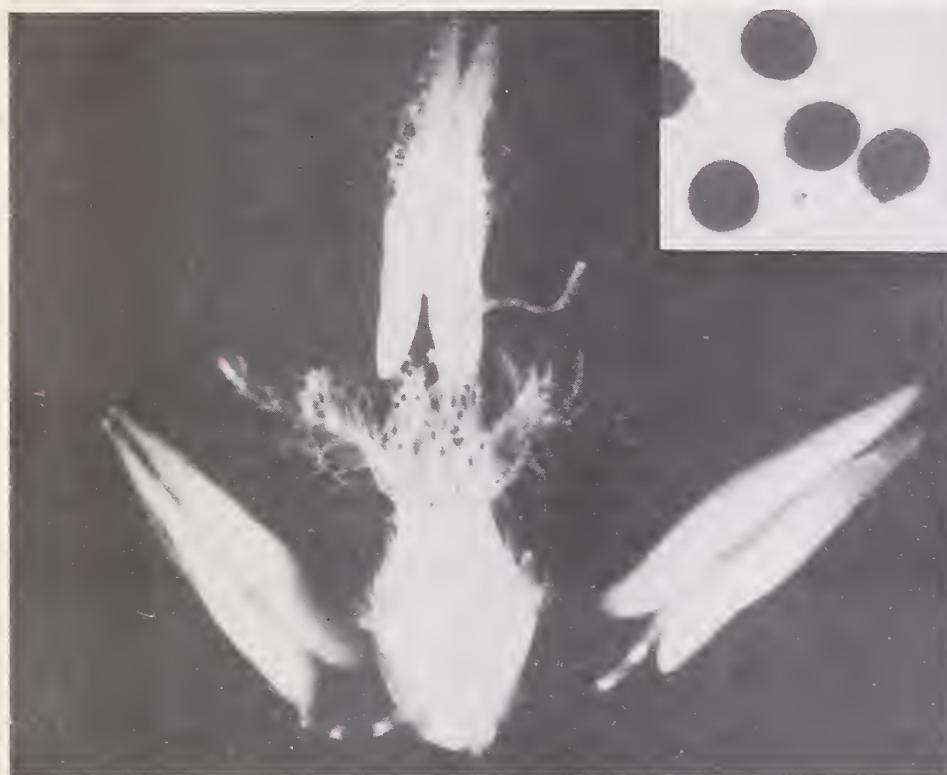


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A major breakthrough in the production of hybrid wheat came when scientists of ARS and the Nebraska Agricultural Experiment Station found a gene or genes that will restore fertility in male-sterile wheat. Scientists can now cross wheat having the restorer gene with male-sterile plants to produce experimental wheat hybrids. Further research should lead to commercial wheat hybrids for farmers. Male sterility serves the same purpose in wheat that detasseling does in producing hybrid corn seed. The wheat flower cannot be fertilized by the infertile pollen in the upper small photo. Normal, fertile pollen is shown in the inset below it. BN-18086, BN-18073, BN-18074, USDA 3561-62.



Flowers on this male-sterile wheat remain open until pollinated, but flowers on normal wheat open for only a short time. BN-18084.

# RESEARCH ROUNDUP

• • • 1962

During the U. S. Department of Agriculture's Centennial year many significant advances in research and regulatory programs were reported. These advances increased efficiency in production, utilization, and marketing of high-quality agricultural products for the Nation's consumers. The photographs shown here highlight some of the year's progress made by scientists of USDA's Agricultural Research Service. Photo negative numbers and USDA press release numbers are listed for those wanting further information on these developments.

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**Picture Story No. 152  
February 1963**



Losses from the European corn borer in 1962 were the lowest they have been since 1952 but still totalled \$69 million. One reason for lower losses was the increased use of resistant corn varieties. Moths of the borer are collected in a trap to check the resistance of a particular corn variety. BN-14615X, USDA 1366-62

A plant called "crambe," introduced from the Mediterranean region, can be grown in the U. S. for a source of valuable industrial oils, ARS scientists believe. Field trials have proved that crambe can be planted, cultivated, and harvested with equipment farmers now use for producing grain. The crambeseed oil would have many markets, including its use in the manufacture of rubber, synthetic fibers, plastic coatings, and detergents. BN-17440X, USDA 3739-62.

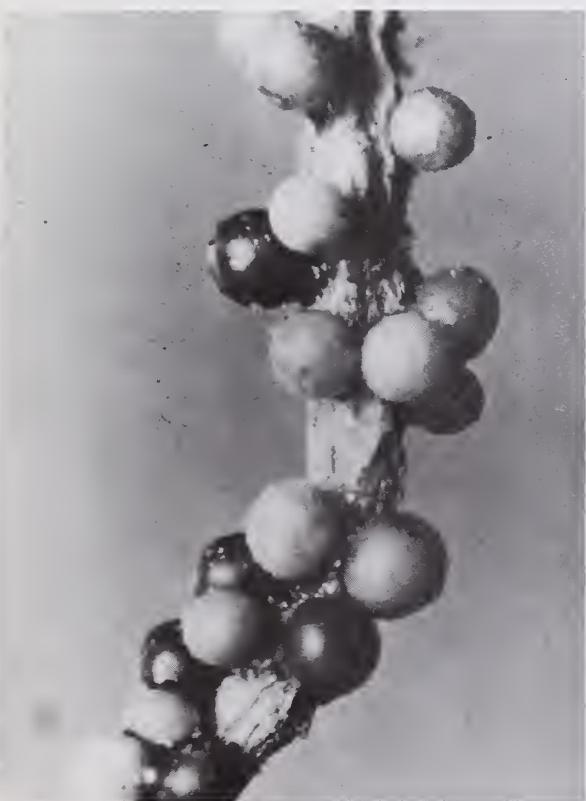


In continued efforts to keep out foreign plant pests, ARS quarantine workers inspected 137,000 airplanes, 60,000 ships, 25,000,000 vehicles, and 64,000 railway cars at U. S. ports and borders. BN-16437, USDA 3641-62





A camera (insert) has been designed by an ARS engineer to locate underground trouble in drainage lines. The remote-controlled camera and flash unit travels through the tile on two wide wheels, powered by a small electric motor, taking pictures inside the tile. This one shows a close-up of a root that has entered between two tiles and bridged across the drain. BN-17133, BN-17134, USDA 3705-62

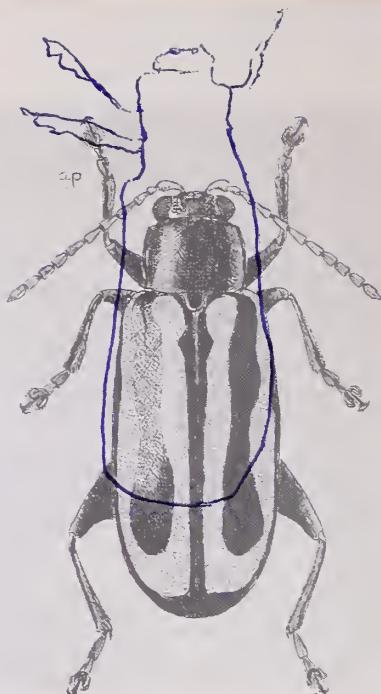


Three thousand acres have been reclaimed for potato growing after successful soil treatments against the golden nematode. Eggs of this pest over-winter in the bodies of dead female nematodes, which become golden colored cysts, shown here greatly magnified on a potato root. In the spring, larvae hatch from the eggs and suck the life out of the plants. BN-14740X (Agricultural Research,

August 1962, P. 8)



Cotton farmers share in the benefits of new research advances. ARS entomologists found in field tests that moths of the male pink bollworm--one of the worst cotton pests--can be lured into traps baited with a sex attractant from young female moths. Here, an entomologist is inspecting a bollworm trap made of a paper cup containing the substance to attract the moth and some fly paper to entangle him. BN-17614, USDA 3108-62



In ARS experiments, several South American insects showed ability to control alligatorweed, an aquatic plant that often clogs lakes, irrigation ditches, rivers, and ponds in the Southeastern U. S. An Argentina flea beetle (above) which does not feed on any other plant in the U. S., looks especially promising. Flea beetles (in the plastic bags), starved when scientists confined them to buckwheat, one of our cultivated plants most closely related to alligatorweed, but they thrived on the alligatorweed in background. BN-15802, BN-15797, USDA 1007-62



New processes that make wool garments highly resistant to shrinking and permit permanent pleating were developed by ARS utilization research scientists. The new processes are now being evaluated by industry. This skirt and the upper square were treated before being machine-washed. The small square, untreated, shrank when washed. BN-17424X (Agricultural Research, January 1962, P. 10)



ARS housing specialists have measured human movement--walking, bending, and reaching--to develop space standards for household activities, needed by architects, builders, and home owners. This energy-saving kitchen is one result of their research. DN-891



The white-roofed hangar and nearby buildings house the screw-worm-fly-rearing plant completed during the year near Mission, Texas. Here, screwworm flies are grown and made sexually sterile for use in the campaign to eradicate the screwworm from the Southwest. The man-raised sterile flies are dispersed from airplanes to reduce screwworm populations in over-wintering areas and to establish an artificial barrier zone aimed at keeping this destructive animal pest from reinfesting cleared areas.

N-45636, USDA 2059-62